Abstract of the Disclosure

A method of removing photoresist from a wafer or other substrate consists of ashing the photoresist only once the wafer is spaced a predetermined distance above a wafer stage in a process chamber, so that the photoresist is removed at once from all of the surfaces of the wafer. The wafer is heated to a temperature of 210°C to 230°C after it is positioned on the upper surface of the wafer stage. The heated wafer is then raised a distance of 9 ㎜ to 11 ㎜ above the upper surface of the wafer stage. At this time, process gas is introduced into the process chamber, and the process gas is converted into plasma. Thus, the plasma efficiently removes the photoresist all at once from the surfaces of the wafer.